

National and State Resource Concerns and Quality Criteria					
Natural Resource Concern	Description of Concern	National Quality Criteria	Missouri Quality Criteria	Measurement Units	Assessment Tools for Quality Criteria Evaluation
AIR					
<i>Air Quality</i> Particulate matter less than 10 micrometers in diameter (PM 10)	Particulate matter less than 10 micrometers in diameter are suspended in the air causing potential health hazards to humans and animals.	Land use and management operations comply with PM 10 requirements of the State or Federal Implementation Plan and all applicable Federal, Tribal, State, and Local regulations	Same as National.	<i>pounds/year</i> – average annual pounds of reduced PM-10 emissions for the field or planning area/unit	<ul style="list-style-type: none"> • Specific guidelines contained in State or Federal Implementation Plan • Air quality analysis • Visual observation
<i>Air Quality</i> Particulate matter less than 2.5 micrometers in diameter (PM 2.5)	Particulate matter less than 2.5 micrometers in diameter are suspended in the air causing potential health hazards to humans and animals.	Land use and management operations comply with PM 2.5 requirements of the State or Federal Implementation Plan and all applicable Federal, Tribal, State, and Local regulations.	Same as National.	<i>pounds/year</i> – average annual pounds of reduced PM-2.5 emissions for the field or planning area/unit	<ul style="list-style-type: none"> • Specific guidelines contained in State or Federal Implementation Plan • Air quality analysis
<i>Air Quality</i> Excessive Ozone	High concentrations of ozone are adversely affecting human health, reducing plant yields, and creating smog.	Land use and management operations reduce ozone precursors and comply with requirements of the State or Federal Implementation Plan and all applicable Federal, Tribal, State, and Local regulations.	Same as National	<i>pounds/year</i> – average annual pounds of reduced ozone precursors emissions for the field or planning area/unit	<ul style="list-style-type: none"> • Specific guidelines contained in State or Federal Implementation Plan • Air quality analysis
<i>Air Quality</i> Excessive Greenhouse Gas – CO₂ (carbon dioxide)	Increased CO ₂ concentrations are adversely affecting ecosystem processes.	Land use and management operations reduce CO ₂ emissions into the atmosphere and comply with requirements of the State or Federal Implementation Plan and all applicable Federal, Tribal, State, and Local regulations.	Same as National	Non Measurable	<ul style="list-style-type: none"> • Model simulations (Century, EPIC, CQUESTER)

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<i>Air Quality</i> Excessive Greenhouse Gas – N₂O (nitrous oxide)	Increased N ₂ O concentrations are adversely affecting ecosystem processes.	Land use and management operations reduce N ₂ O emissions into the atmosphere and comply with requirements of the State or Federal Implementation Plan and all applicable Federal, Tribal, State, and Local regulations.	Same as National	Non Measurable	<ul style="list-style-type: none"> Model simulations (NLEAP or DayCENT) IPCC methodology
<i>Air Quality</i> Excessive Greenhouse Gas – CH₄ (methane)	Increased CH ₄ concentrations are adversely affecting ecosystem processes. .	Land use and management operations reduce CH ₄ emissions into the atmosphere and comply with requirements of the State or Federal Implementation Plan and all applicable Federal, Tribal, State, and Local regulations.	Same as National	Non Measurable	<ul style="list-style-type: none"> IPCC methodology
<i>Air Quality</i> Ammonia (NH₃)	Animal waste and inorganic commercial fertilizers emit ammonia that contributes to odor, is a PM2.5 precursor, and contributes to acid rain.	Land use and management operations reduce NH ₃ emissions into the atmosphere and comply with requirements of all applicable Federal, Tribal, State, and Local regulations.	Same as National	<i>pounds/year</i> – average annual pounds of reduced NH ₃ emissions for the field or planning area/unit	<ul style="list-style-type: none"> Scent assessment
<i>Air Quality</i> Chemical Drift	Materials applied to control pests drift downwind and contaminate/injure non-targeted fields, crops, soils, water, animals and humans.	Land use and management operations reduce chemical drift into the atmosphere and comply with all applicable Federal, Tribal, State, and Local regulations, and applicable label directions.	Same as National	Non Measurable	<ul style="list-style-type: none"> Visual assessment
<i>Air Quality</i> Objectionable Odors	Land use and management operations produce offensive smells.	Odor-producing facilities and activities are planned and sited to mitigate potential nuisance impacts and meets all applicable Tribal, Federal, State, and Local regulations.	Same as National	Non Measurable	<ul style="list-style-type: none"> Scent assessment Agricultural Waste Management Field Handbook (AWMFH)

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<i>Air Quality</i> Reduced Visibility	Sight distance is impaired due to airborne particles causing unsafe conditions and impeded viewing of natural vistas especially in Class I viewing areas (primarily national parks and monuments).	Land use and management operations reduce particle emission into the atmosphere and comply with all applicable Federal, Tribal, State, and local regulations, including State and local smoke and/or burn management plans.	Same as National	Non Measurable	<ul style="list-style-type: none"> • Visual assessment • Regional air partnership recommendations • state guidance for smoke management
<i>Air Quality</i> Undesirable Air Movement	Wind velocities (too little or too much) reduce animal or plant productivity, impact human comfort and increase energy consumption.	Devices and practices are sited and planned to mitigate excess or deficient air movement.	Same as National	Non Measurable	<ul style="list-style-type: none"> • Visual assessment • Anemometers
<i>Air Quality</i> Adverse Air Temperature	Air temperatures (too cold or too hot) reduce animal or plant productivity, impact human comfort and increase energy consumption.	Devices and practices are planned and sited to mitigate temperature extremes.	Same as National	Non Measurable	<ul style="list-style-type: none"> • Chill factor indices • Heat indices • Air temperature assessment